CLAIMS

WHAT IS CLAIMED IS:

1. An ink-supplied wire dot matrix printer head for printing dots on a sheet of print paper by actuating a plurality of wires each with ink disposed on the tip end thereof into contact with said sheet of print paper in order to transfer dots of ink to the sheet of paper, said ink-supplied wire dot matrix printer head comprising:

an ink-supply tank containing an ink absorbing member and formed with an ink-supply port;

an ink guide member extending into said ink supply port for transporting ink from the ink supply tank, said ink guide member being formed with a wire guide opening for receiving and guiding an ink wire and with a capillary ink path communicating between the ink absorbing member and the side of a wire positioned within said wire guide opening, at least the portion of the capillary path adjacent the wire being free of an absorbing material.

2. An ink-supplied wire dot matrix printer head according to claim 1, wherein said ink guide member is formed with an opening therethrough defining said capillary path by which said side of the wire and said ink absorbing member are held in ink-transporting communication with each other.

3. An ink-supplied wire dot matrix printer head according to claim 1, wherein said ink guide member includes a further ink-absorbing member in ink-transporting communication between said ink-absorbing member in said tank and the balance of said capillary path.

4. An ink-supplied wire dot matrix printer head according to claim 2, wherein said ink guide member comprises at least first and second ink guide components, said first ink guide component being extended into said ink supply port, said second ink guide component being held in communication with said wire, and said opening being defined in part by a space between the assembled first and second ink guide components.

5. An ink-supplied wire dot matrix printer head according to claim 3, wherein said ink guide member comprises at least first and second ink guide components, said first ink guide component being extended into said ink supply port, said second ink guide component being held in communication with said wire, and said capillary path being defined at least in part by a space between the assembled first and second ink guide components.

6. An ink-supplied wire dot matrix printer head according to claim 1, wherein said ink absorbing member comprises at least two porous members disposed as stacked layers, one of said porous members which is closer to said ink supply port being made of a porous material having a smaller average pore diameter than the porous material of the other porous member more remote from said ink supply port.

7. An ink-supplied wire dot matrix printer head according to claim 1, wherein said ink absorbing member is made of a porous member having a pore diameter which varies such that the pores are smaller in the vicinity of said ink supply port than the pores spaced from said ink supply port.

8. An ink-supplied wire dot matrix printer head according to claim 7, wherein at least a region of the ink-absorbing member is made of a porous member having pore diameters which vary pro-

gressively in the direction away from said ink supply port from smaller to larger average diameters.

9. An ink-supplied wire dot matrix printer head according to claim 1, wherein said ink absorbing member is made of a porous member mounted in said ink tank and compressed in the vicinity of said ink supply port.

10. An ink-supplied wire dot matrix printer head according to claim 1, wherein said ink tank includes an inner wall surface having projections to provide a space between said ink absorbing member and said wall surface.

11. An ink-supplied wire dot matrix printer head according to claim 10 and including means for providing ambient air to the space between said ink absorbing member and said wall surface.

1984. 10. 9
T. S.
M. M.
Y. M

12. An ink-supplied wire Dot matrix printer head according to claim 1, wherein said ink tank includes a bottom formed with a slot defined therein and communicating with said ink supply port.

13. An ink-supplied wire dot matrix printer head according to claim 12, wherein said wire guide member is formed with a groove disposed in confronting relation to said slot in said bottom of the ink tank and defining a portion of said capillary path.

14. An ink-supplied wire dot matrix printer head according to claim 1, wherein said wire guide member has on a distal end surface facing the sheet of print paper a groove communicating with said wire guide hole.

15. An ink-supplied wire dot matrix printer head according to claim 1, further comprising a head body and a guide slot, said ink tank being detachably mounted on said head body and having a projection engageable in said guide slot for positioning said head body and said ink tank relative to each other when said ink tank is mounted on said head body.

16. An ink-supplied wire dot matrix printer head according to claim 1, wherein said capillary path is adapted to provide greater capillary attraction than the capillary attraction of at least the region of said ink-absorbing member.

17. An ink-supplied wire dot matrix printer head according to claim 16, wherein said capillary path is adapted to define regions of varying capillary attraction, the capillary attraction increasing from the ink-absorbing member to the region adjacent the side of said wire.

18. An ink-supplied wire dot matrix printer head according to claim 17, wherein said ink-absorbing member includes regions of different capillary attraction, the capillary attraction being greater in the region adjacent the ink supply port.

19. An ink-supplied wire dot matrix printer head for actuating wires having ink on the tip ends thereof into contact with a sheet of printer paper in order to transfer ink to the sheet, thereby forming ink dots thereon, said ink-supplied wire dot matrix printer head comprising:

a head body having therein a plurality of ink tanks for storing different inks and at least one wire operatively coupled to each said tank for ~~for~~ being supplied with said ink thereby.

1984.10.9
T.S.
M.M.
Y.M.

20. An ink-supplied wire dot matrix printer head according to claim 19, including at least four ink tanks respectively carrying yellow, cyan, magenta and black inks, and including four said wires each operatively coupled to one of said tanks for the supply of ink to the tip end thereof, said wires being positioned so that the tip ends of said wires are inclined with respect to a direction in which the sheet of print paper is scanned by the printer head, the wire supplied with the ink of yellow being disposed first along a direction in which the sheet of print paper is fed.

21. An ink-supplied wire dot matrix printer head for printing on a print medium comprising:

at least one print wire adapted for displacement to transfer ink on the distal end thereof to a print medium;

an ink supply guide being formed with at least one an ink supply guide being formed with at least one ink guide groove in communication with said ink-absorbing body through said ink supply port; and

a wire guide member formed to define a capillary ink path in the gap between said ink supply guide and said wire guide member, said capillary path communicating between said ink guide groove and a side of said wire.

22. An ink-supplied wire dot matrix printer head according to claim 21, said ink tank being formed with ink guide grooves on the inner bottom thereof.

23. An ink-supplied wire dot matrix printer head according to claim 21, said wire guide member including an opening therethrough for receiving said wire and dimentioned to define a capillary path with the side of said wire.

24. A method for supplying ink dots to a sheet of paper by an ink supplied dot matrix printer head comprising:

drawing ink by capillary action from an ink absorbing body in an ink tank through an ink guide including a wire guide member having a wire inserted therethrough,

said ink being drawn in a path from said ink tank through said ink supply member to the tip end of said wire by adjusting the capillary action along said path so that the capillary action is successively greater along said path.